EXHIBIT 5

US009297150C1

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United States Patent
Klicpera

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(54) **WATER USE MONITORING APPARATUS AND WATER DAMAGE PREVENTION SYSTEM**

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Related U.S. Application Data

(60) Continuation-in-part of application No. 13/541,819, filed on Jul. 5, 2012, now abandoned, which is a continuation-in-part of application No. 13/216,521, filed on Aug. 24, 2011, now Pat. No. 8,347,427, and a continuation-in-part of application No. 13/216,497, filed on Aug. 24, 2011, now Pat. No. 8,887,324,
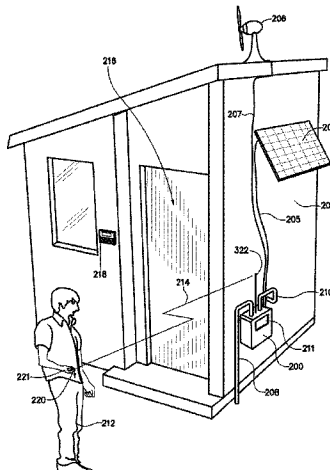
(Continued)

(51) **Int. Cl.**
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F16K 31/02	(2006.01)
E03B 7/12	(2006.01)
E03B 7/07	(2006.01)
F16K 31/05	(2006.01)
F16K 31/00	(2006.01)

(52) **U.S. Cl.**
CPC *G08B 21/18* (2013.01); *E03B 7/071* (2013.01); *E03B 7/12* (2013.01); *F16K 31/02* (2013.01); *F16K 31/05* (2013.01); *Y10T 137/8158* (2015.04)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/014,354, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner — Samuel G Rimell

(57) **ABSTRACT**

The present invention is a water damage prevention system that has a residential or industrial/commercial facility water supply interruption system. The system is comprised of a remotely controllable base station with shut-off/on mechanism that is in wireless or wired communication with a convenient controller. The base station with shut-off/on mechanism is interposed within a water line from a water main to the living or operating quarters portion of a residential or a industrial/commercial facility or building, such that activation of the base station with shut-off/on valve operates to prevent flow of water from the water main to the living quarters when the residential home or industrial/commercial facility or building is vacated or unsupervised. In this manner, damage to the living quarters or the industrial/commercial facility or building from failure of water pipes running through the living or working quarters is prevented during times that the shut-off mechanism is activated.

Attention is directed to the decision of PTAB Final Decision in IPR 2020-00098 resulting in certificate K1 relating to this patent. This reexamination may not have resolved all questions raised by this decision. See 37 CFR 1.552(c) for *ex parte* reexamination and 37 CFR 1.906(c) for *inter partes* reexamination.

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Related U.S. Application Data

which is a continuation-in-part of application No. 12/986,341, filed on Jan. 8, 2011, now abandoned, which is a continuation-in-part of application No. 12/877,094, filed on Sep. 7, 2010, now Pat. No. 9,266,136, which is a continuation-in-part of application No. 12/539,150, filed on Aug. 11, 2009, now Pat. No. 9,061,307, and a division of application No. 11/877,860, filed on Oct. 4, 2007, now Pat. No. 9,254,499.

(60) Provisional application No. 61/729,653, filed on Nov. 26, 2012.

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EX PARTE
REEXAMINATION CERTIFICATE

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

ONLY THOSE PARAGRAPHS OF THE
SPECIFICATION AFFECTED BY AMENDMENT
ARE PRINTED HEREIN.

Column 5, lines 1-26:

The joint between the water supply lines **208** and **310** and the remotely controllable base station **200** with water [shut-off/on] *control* mechanism **310** could be screw and thread fitting, compression fitting, flare fitting, solder, brazed, or sweat joint, adhesive technology and/or use typical plumbing techniques. The joint may be designed to be permanent or removable. The remotely controllable base station **200** can incorporate a freeze design feature (not shown) which, before a freezing condition is encountered (*water temperature is approaching 32 degrees Fahrenheit or 0 degrees Celsius*), activates a [freezing] *freeze* mechanism. This *freeze mechanism* technology [is] *may be similar to what is* commonly called "frost plugs" or "freeze plugs". This protects the more expensive remotely controllable base station **200** by sacrificing the less expensive and easy to install frost/freeze plug. The optional frost/freeze plug technology is typically used in outside underground pits or poorly heated garages or utility rooms. In some extraordinary freezing situations, the optional frost/freeze plug can be incorporated with a draining mechanism or system (not shown) that allows the water to passively drain from the home or business water pipes or forcefully removes the water from the water pipes with a power system. And it is anticipated that in these extraordinary freezing situations, the draining mechanism or system can also replace the water in the water pipes with air, nitrogen or other gas/liquid that have low freezing points and non-toxic conditions, are can withstand the freezing conditions to minimize damage to the water pipes.

Column 9, lines 52-67 to Column 10, lines 133:

Multi-jet meters measure water velocity converting the velocity into volume [of use. They use] *by utilizing* an impeller which rotates on a horizontal plane that is driven by several "jets" of water flowing through holes spaced around the entire circumference of the impeller. [Strong points] *The advantage* of multi-jet meters [are] is that they can be smaller than PD meters of the same flow rate, and therefore sometimes less expensive [and lighter weight reducing manufacturing and shipping costs]. Multi-jets are very accurate at low flow rates[.] and have low head loss (pressure loss) at high rate compared to positive displacement (PD) meters. Since the impeller [moves freely in the chamber] on a spindle with a bearing, it can also pass sand, rust particles, minerals, or small particulate matter without damage or clogging. In this embodiment, a Multi-jet meter can incorporate a stop mechanism such as a solenoid activated mechanism (not shown) that impedes the impeller from

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rotating and restricts the flow of water. Such activated mechanism can be wirelessly (or wired) controlled remotely as described herein.

Column 10, lines 33-44:

Shown in FIG. **7** is a more detailed description of the electrical circuitry. A timing clock integrated circuit (*IC*) **272** with data transfer means **273** for communicating with the CPU or microprocessor **266** and having a power line **274** and ground line **276**. The timing [sensor] *clock IC*) can communicate with the CPU or microprocessor to display such information such as the time of day and current date [and/or] *or monitor* the [totally] *total* that the water supply has been on before it was turned off, or for providing scheduling procedures. Various mechanical and magnetic switches can be utilized to communicate a signal to the CPU or microprocessor **84** that water supply has been turned off and on.

Column 11, lines 8-23:

The CPU will could also have the capability to record compliance use data, e.g. time and date stamp for recording each water system shut off or turn on occurrence *in a memory bank or module*. The compliance use data can be used by insurance companies, municipality agencies, third parties, or the owner of a residence or company, to determine if the individuals are utilizing the water damage prevention technology or if a during a particular leak damage event that the water prevention technology was utilized. The compliance use data can be downloaded by a USB or other transfer port or transferred wirelessly (or by PSTN) to a support type device, the remote managing operations, or the insurance company, municipal agency or a third party. The use of the data obtained can be presented in various formats or defined formats specified by owner, insurance companies, municipality agencies or third party.

Column 11, lines 58-67 to Column 12, lines 1-21:

in addition, in another embodiment the [remotely controllable] base station **200** could communicate with optional [highly] sensitive *and specifically located* flow sensors with transceivers that are designed to determine if the flow is occurring through a particular water fixture [is as] *has a* slow [as] *leak,* for example, 25-50 ml per minute. The [highly] sensitive *and specifically located* flow sensors with transceivers can be programmed to periodically detect slow flow or no flow conditions at particular time intervals, such as, for example, every 10 to 45 seconds. Alternately the water parameter data can be recorded and stored at individual [high] flow [sensor] *sensors with transceivers* for subsequent transmission as a stream of data points or a data packet. In this regard the recorded data can be transmitted wirelessly to the remotely controllable base station **200** at longer programmable time intervals, such as, for example, every **24** hours. The [highly] sensitive flow sensor with transceivers are designed as wireless flow sensors and designed to have very low electrical power usage. Power consumption for each [highly] sensitive water flow sensor with transceivers are designed to be extremely low, for example, about 100-200 micro-amp hours per day. Power can be supplied by batteries, or alternatively, can be connected to the 20/240 volt electrical system. The [highly] sensitive water flow sensors with transceivers can have an extended battery life by utilizing the interval wireless communications or transmissions and with a long lasting battery

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<table>
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pack, such as, for example, the Tadiran series of batteries manufactured by Tadiran U.S. Battery in Lake Success, N.Y. A sealed door means is utilized to allow battery replacement. In addition, the batteries can be recharging type and accessed with an electrical coupler accessed from the outside of the [highly] sensitive flow sensors with transceivers.

Column 12, lines 21-40:

At the [water use and water energy use monitoring display apparatus/] base station [10, 126] *200*, received data can be stored and analyzed to determine whether any water fixture in the facility is leaking by analyzing a means that differentiates between normal flow conditions and a slow flow condition. When or if leakage condition is indicated, an alert can be generated on the various displays associated with the remotely controllable base station **200** and/or initiate a call, using wireless network **44**, can be made to the home or office owner/operator or to the municipality of governing agency (or an insurance company) so that maintenance personnel can be dispatched to turn-off the water supply at the offending residence or office or fix the leaking unit. The data and/or results of analysis conducted at the remotely controllable base station **200** can be transmitted to a remote central monitoring computer service via satellite, microwave technology, the Internet, telephone lines, and the like. At the off-site location, additional analysis and/or monitoring can be accomplished.

Column 16, lines 19-28:

An optional flow sensor **280** can he incorporated in the remotely controllable base station **200** to monitor water flow, *water duration and total water volume*. The flow sensor **280** can be used to send the signal through the CPU/microprocessor to the remote controllers **218**, **220** and **244** for confirmation that the water flow has been interrupted. While the position of the shut-off/on mechanism valve **310** can also be used for this purpose, for additional confirmation that the water flow has been interrupted. The optional flow sensor **280** receives electrical energy through power line **282** and a ground line **284**.

Column 16, lines 29-49:

FIG. **10** is a block diagram of the present invention [, under another embodiment] that provides additional integrity technology for the transfer of data. At a home or business customer premises, a broadband modem (e.g. cable, DSL, satellite or other service) and router **444** connects and manages the remotely controllable base station **200**. The broadband modem and router [444] *438* communicate with the remotely controllable base station **200** or insurance company, municipality agencies and/or third party station **470** located in the service provider's data center (or hosted by an insurance, municipality agencies and/or third party monitoring, and data center) with the communications takes place via a communication network **434**, **436** (e.g., cellular network, internet, etc.). These Remote Operation Service Centers **452** manage the system operations necessary to deliver the integrity of the system service described herein. The combination of the broadband modem/router [444] *438* and the Remote Operational Service Center **452** enable a wide variety of support type devices **430** (e.g., PCs, mobile phones and PDAs, computers, televisions) to communicate with the base station **200** allows users to remotely control the residential or commercial water supply.

Column 16, lines 50-57:

[The Remote Operation Service Center **452** is managed by a service provider via the browser-based Service Provisioning Delivery and Maintenance applications **454** that are provided within the Remote Operational Service Center **452**. Or, if preferred, the] The service can be more tightly integrated securely with the existing OSS/BSS **456** and service delivery systems **462** via the Web Services-based XML, APIs **464** to Association Servers **458**.

Column 16, lines 63-67 to Column 17, lines 1-13:

In addition to HTTP or HTTPS communications **422**, the broadband modem and router [444] *438* and Remote Operation Service Center **452** can support the use of a cellular network **436** ([both] GPRS, GSM and CDMA [options] are available) as another means to provide the primary broadband connection **438** to the internet **434**. [However, currently available broadband modems and routers are unable to communicate view **436** as the required electronics are not incorporated into the electrical circuitry. In spite of this, broadband routers] *Routers* such as those currently seen in homes of companies are enabled to communicate with the internet via a DLS line (over the switch telephone network (PTSN) or cable modem. One viable option is to build a cellular network circuitry into the broadband router or remote base station. Alternately, a smart phone can be used as a "hotspot". When configured as such, the smart phone "hotspot" turns instantly into a broadband router to which the remotely controllable base station **200**, PC, or television **430** can communicate with the internet.

Column 17, lines 22-30:

The apparatus/devices **480** accessing a Web Portal application [494] *496* through the internet **434**, performs an end-user configuration and customization of the integrated service. Additionally device management is capable of performed by this portal application. [A mobile device (e.g., PDA, mobile phone, etc.) accessing the integrated system Mobile Portal **500**, PC or browser-based "widget" devices **484** that present integrated security system service content, as well as other third-party content, in simple, targeted ways.]

Column 17, lines 31-49:

There are numerous types of server components of the Remote Operation Data Service Center **452**. Business Components which manage information about the *water* controlling/monitoring devices, using Web 2.0, and XML, APIs (see FIG. **10**). Within the OSS/BSS Components are the Customer Help Desk **502** which provides information about remote devices and base station installment instructions and operation and technology questions. The Service Delivery and Management Application **504** [enables] *enable* operators to administer the service (these components also access the Business Components via the XML APIs, and also via published SNMP MIBs). Service provisioning **506** can he used to include a 3rd party to monitor leak flow sensors located at a residence or company and provide alarms or send messages to the client when water leak problems are detected. If the residence or company hires a 3rd party or has account with a 3rd party, an insurance company and/or municipality agencies, the Order, Management and Billing Component **508** will manage this service.

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Column 17, lines 50-59:

The server components provide access, and management of, the objects associated with an integrated broad. It is a location where modem/router [444] *438* and remotely controllable base station **200** is located in a home or company, and is also commonly referred to as a site or premises; the site or premises can include any type of structure (e.g., home, office, warehouse, etc.) at which a modem/router **444** and the remotely controllable base station **200** are located, Remote devices can only access the networks to which they have been granted permission through activation (e.g. pairing process).

Column 17, lines 60-67 to Column 18, lines 1-29:

[The low-level service management activities for the integrated system service. They define all of the] The remote devices, for example, the cell phone, smart phone or similar apparatus **400**, computer browser **482**, PC applications or programs **484** or TV **492** (internet [capbability] *capability*), associated with residential or corporate [premise] network, analyze how the devices interact, and trigger associated actions (such as sending signals to turn on or off the water system, or provide notifications to home or company owners). All changes in device states are monitored and logged for subsequent evaluation. The Business Components also manage all interactions with external systems as required, including sending alarms and other related self-monitoring data to the owners or the optional insurance, municipality agency or a [third party] *third-party* monitoring station. [The following Business Components manage the main elements of the integrated security system service, but the embodiment is not so limited:] A Registry Manager **526** defines and manages remote devices and networks. This component is responsible for the creation, modification and termination of devices and networks. A Network Manager **524** defines and manages security and self-monitoring devices that are deployed on a network (site). This component handles the creation, modification, deletion and configuration of the devices, as well as the creation of automations, schedules and notification rules associated with those devices. A Data Manager **532** manages access to current and historical state data for an existing network and its devices. This component specifically does not provide any access to network management capabilities, such as adding new devices to a network, which are handled exclusively by the Network Manager **524**. To achieve optimal performance for all types of queries, data for current device states is stored separately from, but linked together, in the historical activity data (a.k.a. "logs") in the database. A Log Data Manager **532** performs ongoing transfers of the device state data to the historical activity data log tables.

Column 18, lines 45-57:

The Business Components store information about the objects that they manage in the Control Service Database **536**. The Control Service Database **536** stores information about users, networks, devices and logged activities. This database interaction is performed via an appropriate interface. For security purposes, the various Business Components manage all data storage and retrieval. The various Business Components provide web services-based APIs that application components use to access the various Business Components' capabilities. [Functions of application compo-

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nents include presenting integrated security system service data to end-users, performing administrative duties, and integrating with external systems and back-office applications.]

Column 19, lines 4-17:

[The Business Components also have an XML-based interface **538** for quickly adding support for new devices to the integrated security system.] This interface **538** is a flexible, standards-based mechanism for defining the properties of new devices and how they can be managed. Although the format is flexible enough to allow the addition of any type of future device, predefined XML profiles are currently available for adding common types of devices such as sensors **540**.

Column 19, lines 18-43:

Once a user sets up a service, an Activation Application **494** delivers a first display to the user on either a display [mean] *means* on the remotely controlled base station **200** and/or on a display means on the remote devices **480**. This pairing technology or other application secure means associates a new user with a purchased remote device **480** and the remotely controlled base station **200**. It primarily uses functionality published by the Provisioning API. Alternately, a Web Portal Application **496** can run on PC and cell phone browsers and delivers the web-based interface to the integrated system devices. This application allows users to manage their networks (e.g. add devices and create automations) as well as to view/change device states. Because of the wide scope of capabilities of this application, it uses three different Business Component APIs that include the Registry Manager API, Network Manager API, and Data Manager API. A Mobile Portal **500** is a small-footprint web-based interface that runs on mobile phones and PDAs. Potentially, the interaction with the Business Components is primarily via the Data Manager API. Custom portals and targeted client applications can be provided leveraging the same Business Component APIs used by the above applications. A Content Manager Application Component **498** delivers content to a variety of users. [It sends multimedia-rich user interface components to widget container clients (both PC and browser-based), as well as to advanced touchscreen keypad clients.]

Column 21, lines 1-8:

[The device management module **594** is in charge of all discovery, installation and configuration of both wired and wireless IP devices coupled or connected to the system. Networked IP devices require user configuration of many IP and security parameters to management module of an embodiment handles the details of this configuration. The device management module also manages the video routing module described below.]

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims **8**, **12**, **15**, **17**, **20**, **21**, **23** and **26** were previously cancelled.

Claims **1-7**, **9-11**, **13-14**, **16**, **18-19**, **22**, **24-25** and **27-28** are cancelled.

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New claims **29-56** are added and determined to be patentable.

29. A building or structure water damage prevention system, said system comprising:
a base station having a water control mechanism interposed between a main water supply line and a water supply for said building or structure;
said base station further comprising:
   a) an electrical circuitry including at least one of a CPU, microprocessor, and microcontroller with a power source;
   b) one or more flow rate sensors connected to the main water supply and connected with said electrical circuitry;
   c) at least one of a Bluetooth, Wi-Fi, Radio Frequency (RF) , Zigbee, and Z-Wave and cellular wireless communication technology having the capability to communicate with one or more remote apparatuses and utilizing a confidential format including at least one of an encryption, authentication, integrity, and non-repudiation technology which originates from the base station;
   d) the wireless communication technology having the capability connecting to the internet for remote operations; and
   e) wherein the water control mechanism, electrical circuity, at least one of said CPU, microprocessor and microcontroller, one or more flow rate sensors, and wireless communication technology are contained with the base station;
the one or more remote apparatuses comprising a wireless key chain or key fob apparatus including electronic circuitry and a corresponding Bluetooth, Wi-Fi, Radio Frequency (RF), Zigbee, Z-Wave wireless and cellular communication technology wireless technology; and
the one or more remote apparatuses including a user interface to display a leak alarm, said user interface configured to receive a user command in response to said alarm.

30. A building or structure water damage prevention system as recited in claim 29, wherein said base station with water control mechanism is interposed between the water supply line for a sprinkler system and the water line for said building or structure, such that such that operation of said sprinkler system is not interrupted by the activation of the base station with water control mechanism.

31. A building or structure water damage prevention system as recited in claim 29, wherein said water base station with water control mechanism further includes programmable time circuitry, said time circuitry being adapted to turn on or off the water control mechanism for a programmable determined time.

32. A building or structure water damage prevention system as recited in claim 29, further comprising a mechanical adaptor that enables an override to allow or disallow water flow when the base station with water control mechanism is on or off.

33. A building or structure water damage prevention system as recited in claim 29, wherein said base station with one or more flow sensors and can be programmed to turn off the water supply upon the detection of a leak.

34. A building or structure water damage prevention system as recited in claim 29, said power source comprises at least one of a AC power source, DC power source, and one or more batteries that are electrically connected to said electrical circuitry.

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35. A building or structure water damage prevention system as recited in claim 29, wherein said water control mechanism further comprises a temperature sensor for initiating operations to preventing water pipe damage during freezing conditions.

36. A building or structure water damage prevention system, said system comprising:
a base station having a water control mechanism interposed between a main water supply line and a water supply for said building or structure;
said base station further comprising:
   a) an electrical circuitry including at east one of a CPU, microprocessor, and microcontroller with a power source;
   b) one or more flow rate sensors connected to the main water supply and connected with said electrical circuitry;
   c) at least one of a Bluetooth, Wi-Fi Radio Frequency (RF), and cellular wireless communication technology having the capability to communicate with one or more remote apparatuses and utilizing a confidential format including at least one of an encryption, authentication, integrity, and non-repudiation technology which originates from the base station;
   d) the wireless communication technology having the capability connecting to the internet for remote operations; and
   e) wherein the water control mechanism, electrical circuity, at least one of said CPU, microprocessor and microcontroller, one or flow rate sensors, and wireless communication technology are contained with the base station;
the one or more remote apparatuses comprising a wireless cell phone, smart phone, or other electronic apparatus in wireless communication with said base station; and
the one or more apparatuses including a user interface to display a leak alarm, said user interface configured to receive a user command and response to said alarm.

37. A building or structure water damage prevention system as recited in claim 36, wherein said base station is interposed between the water supply line for a sprinkler system and the water line for said building or structure, such that operation of said sprinkler system is not interrupted by the activation of the base station with said water control mechanism.

38. A building or structure water damage prevention system as recited in claim 36, wherein said water base station with water control mechanism comprises programmable time circuitry, said time circuitry being adapted to turn on or off the water control mechanism for a programmable determined time.

39. A building or structure water damage prevention system as recited in claim 36, further comprising a mechanical adaptor that enables an override to allow or disallow water flow when the base station with water control mechanism is on or off.

40. A building or structure water damage prevention system as recited in claim 36, wherein said base station with one or more flow sensors and can be programmed to turn off the water supply upon the detection of a leak.

41. A building or structure water damage prevention system as recited in claim 36, further comprising at least one of a water turbine generator, solar cell, and wind generation system to provide supplemental electrical energy to said one or more batteries.

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42. A building or structure water damage prevention system as recited in claim 36, wherein said water control mechanism comprises a temperature sensor or freeze resolution technology for initiating operations to preventing water pipe damage during freezing conditions.

43. A building or structure water damage prevention system as recited in claim 36, wherein said base station with water control mechanism measures water flow that can be transferred to a remote offsite computer allowing a user with a cell phone, smart phone, or other electronic apparatus to access the water flow data.

44. A building or structure water damage prevention system as recited in claim 36, wherein said base station with water control mechanism can be programmed to follow a specific schedule for interrupting the water flow or allowing the water flow into the building or structure.

45. A building or structure water damage prevention system as recited in claim 36, wherein said remotely controllable base station and said wireless cell phone, smart phone, or similar electronic apparatus comprises pairing technology to provide a specific wireless communication between said base station and said wireless cell phone, smart phone, or similar electronic apparatus.

46. A building or structure water damage prevention system as recited in claim 36, wherein said wireless communication utilizes a remote operation service center to facilitate the integrity of communication signals.

47. A building or structure water damage prevention system as recited in claim 36, wherein said base station calls or sends a message to the wireless cell phone, smart phone, or similar electronic apparatus when the wireless cell phone, smart phone, or similar apparatus is a programmed distance from the base station when the water has not been turned off.

48. A building or structure water damage prevention system as recited in claim 36, wherein said base station calls or sends a message to at least one of:
(a) the wireless cell phone, smart phone, and similar electronic apparatus;
(b) a residential, industrial, and commercial building owner; and
(c) a municipal agency or insurance company when a leak is detected by said one or more flow sensors.

49. A building or structure water damage prevention system, said system comprising:
a base station having a water control mechanism interposed between a main water supply line and a water supply for said building or structure;
said base station further comprising:
a) an electrical circuitry including at least one of a CPU, microprocessor, and microcontroller with a power source;
b) one or more flow rate sensors connected to the main water supply and connected with said electrical circuitry;
c) at least one of a Bluetooth, Wi-Fi Radio Frequency (RF), Zigbee, and Z-Wave wireless communication technology having the capability to communicate with pane or more remote apparatuses and utilizing a confidential format including at least one of an encryption, authentication, integrity, and non-repudiation technology which originates from the base station;
d) the wireless communication technology having the capability connecting to the internet for remote operations; and

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e) wherein the water control mechanism, electrical circuity, at least one of said CPU, microprocessor and microcontroller, one or more flow rate sensors and wireless communication technology acre contained with the base station;
the one or more remote apparatuses including an alarm or computer system wireless apparatus including electronic circuitry and a corresponding Bluetooth, Wi-Fi, Radio Frequency (RF), Zigbee, and Z-Wave wireless communication technology wireless technology; and
the one or more remote apparatuses including a user interface to display a leak alarm signal, said user interface configured to receive a command and response to said alarm signal.

50. A building or structure water damage prevention system, said system comprising:
a base station having a water control mechanism interposed between a main water supply line and a water supply for said building or structure;
said base station further comprising:
a) an electrical circuitry including at least one of a CPU, microprocessor, and microcontroller with a power source;
b) one or more flow rate sensors connected to the main water supply and connected with said electrical circuitry;
c) at least one of a Bluetooth, Wi-Fi, Radio Frequency (RF), Zigbee, and Z-Wave wireless communication technology having the capability to communicate with one or more remote apparatuses and utilizing a confidential format including at least one of an encryption, authentication, integrity, and non-repudiation technology which originates from the base station;
d) the wireless communication technology having the capability connecting to the internet for remote operations; and
e) wherein the water control mechanism, electrical circuity, at least one of said CPU, microprocessor and microcontroller, one or more flow rate sensors, and wireless communication technology are contained with the base station;
the one or more remote apparatuses including an includes a wireless garage door opener wireless having electronic circuitry and a corresponding Bluetooth, Wi-Fi, Radio Frequency (RF), Zigbee, and Z-Wave wireless communication technology; and
the one or more remote apparatuses including a user interface to display a leak alarm signal, said user interface configured to receive a command and response to said alarm signal.

51. A building or structure water damage prevention system as recited in claim 49, wherein said base station with said one or more flow sensors can be programmed to turn off the water supply upon the detection of a leak.

52. A building or structure water damage prevention system as recited in claim 50, wherein said base station with said one or more flow sensors can be programmed to turn off the water supply upon the detection of a leak.

53. A building or structure water damage prevention system as recited in claim 36, wherein said wireless key chain or key fob apparatus and said base station is configured to initiate a pairing operation for providing a wireless communication protocol between the wireless key chain or key fob apparatus and the base station.

54. A building or structure water damage prevention system as recited in claim 49, wherein the alarm or computer

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system and the base station is configured to initiate a pairing operation for providing a wireless communication protocol between the alarm or computer system and the base station.

55. A building or structure water damage prevention system as recited in claim 50, wherein the wireless garage door opener and the remotely controllable base station is configured to initiate a pairing operation for providing a wireless communication protocol between the wireless garage door opener and the base station.

56. A building or structure water damage prevention system as recited in claim 36, wherein said wireless cell phone, smart phone, or similar electronic apparatus utilizes remote servers and software networks to increase the integrity of at least one of a Wi-Fi and cellular wireless communication.

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(12) **INTER PARTES REVIEW CERTIFICATE** (2095th)

United States Patent
Klicpera

(10) **Number:**   **US 9,297,150 K1**

(45) **Certificate Issued:**   **May 18, 2021**

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(54) **WATER USE MONITORING APPARATUS AND WATER DAMAGE PREVENTION SYSTEM**

(71) Applicant: **Michael Edward Klicpera**

(72) Inventor: **Michael Edward Klicpera**

(73) Assignee: **REIN TECH, INC.**

Trial Number:

IPR2020-00098 filed Oct. 29, 2019

Inter Partes Review Certificate for:

Patent No.: **9,297,150**
Issued: **Mar. 29, 2016**
Appl. No.:   **13/776,963**
Filed: **Feb. 26, 2013**

The results of IPR2020-00098 are reflected in this inter partes review certificate under 35 U.S.C. 318(b).

INTER PARTES REVIEW CERTIFICATE
U.S. Patent 9,297,150 K1
Trial No. IPR2020-00098
Certificate Issued May 18, 2021

1

AS A RESULT OF THE INTER PARTES REVIEW PROCEEDING, IT HAS BEEN DETERMINED THAT:

Claims **8**, **12**, **15**, **17**, **20**, **21**, **23** and **26** are cancelled.

* * * * *

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UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.:   9297150 C1
Issue Date: 11/08/2021
Appl. No.:   90/014,354
Filed: 08/02/2019

PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed <u>19 January 2022</u>.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)
☐ Approved   ☑ Approved in Part   ☐ Denied

Comments: <u>The first para. referencing the MPEP etc. should not print on the certificate.</u>
<u>The 2d para. changing 'east' to 'least' is approved.</u>

PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☐ This is a decision on the petition filed _____ to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed _____. In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☐ Granted   ☐ Dismissed

Comment: _____

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/MICHAEL FUELLING/
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Technology Center <u>3900</u>
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Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,354	08/02/2019	99297150	70947.01	1805

22509   7590   01/26/2022

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EXAMINER
RIMELL, SAMUEL G

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
01/26/2022	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page ___1___ of ___1___

PATENT NO.   : 9,297,150 C1

APPLICATION NO.: 13/776,963

ISSUE DATE   : March 29, 2016

INVENTOR(S)   : Klicpera, Michael Edward

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In accordance with MPEP 1480 Certificate of Correction - Office Mistake (37 CFR 1.322), it appears that a minor error was made during the printing of the Reexamination Certificate issued on November 8, 2021 regarding Reexamination number 90/014,354. The Claims filed on July 26, 2021, designated as "new" claims in response to an Ex Parte Quayle action, included the phrase "an electrical circuitry including at least one of a" in the 7th line of independent claim 36.

In the Reexamination Certificate on Column 8, line 12 which represents independent Claim 36, line 7, the phase currently reads "an electrical circuitry including at east one of a" and should read "an electrical circuitry including at least one of a".

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.